

## **ABSTRACT**

TITLE OF THE ABSTRACT : Prevalence of HLA-B\*27 subtypes in ethnic Tamil population of India with Ankylosing Spondylitis

DEPARTMENT : TRANSFUSION MEDICINE AND IMMUNOHAEMATOLOGY

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### **INTRODUCTION-**

The Human leukocyte antigen-B\*27 is one of the class I molecules of the major histocompatibility complex which is strongly associated with Ankylosing spondylitis (AS). The strength of the disease association with B\*27 varies markedly in different populations. It is an allele family, which constitutes more than 100 subtypes, with a considerable geographic and ethnic difference in distribution. It is important to know whether certain subtypes show any preferential association with AS. The reports of HLA-B\*27 subtypes in Indian patients with AS are limited. The main purpose of the present study was to assess the frequency of subtypes of human leukocyte antigen HLA-B\*27 in patients with Ankylosing spondylitis in patients of Tamil ethnicity from India.

### **MATERIALS AND METHODS-**

The most recent Tamil ethnic adult patients who were referred for HLA-B\*27 testing and found positive were considered for the study. Diagnosis of AS was based on

ASAS criteria. Clinical data for all these patients was retrieved from the patient information system and the stored extracted DNA sample was used for the high resolution HLA typing of the patients. Demographic variables were recorded for all participants using a data collection sheet. Controls were 100 healthy Tamil donors, age above 18 years, for solid organ transplant or stem cell / bone marrow transplant and who had been HLA typed in the Department of Transfusion medicine. Results were retrieved and HLA –B\*27 positive donors with subtypes were documented. All patients positive for HLA –B\*27 were subtyped using sequence based typing.

## RESULTS-

Collected data was analyzed to determine the distribution of HLA- B\*27 allele subtypes in the study population in both patients with AS and controls. The prevalence of HLA-B\*27:04 was 52.2% and HLA-B\*27:05 was 40.7% whereas the prevalence of HLA-B\*27:07 and HLA-B\*27:02 was 4.40% and 2.70% respectively. All the subtypes showed disease predilection for males. The most common extra articular manifestation seen was enthesitis in HLA-B\*27:04 and HLA-B\*27:05. Uveitis was mainly associated with HLA-B\*27:05 and dactylitis with HLA-B\*27:04. The most common peripheral joint involved was knee joint across all the subtypes. A significant female predisposition for peripheral involvement and males for axial involvement was seen in B\*27:04 subtype.

## KEYWORDS-

Ankylosing spondylitis, Tamil ethnic population, HLA-B\*27, Sequence based typing